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CENTRAL INTELLIGENCE AGENCY

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OFFICE OF NATIONAL ESTIMATES

8 September 1954

SUBJECT: TERMS OF REFERENCE: NIE 11-9-54: SOVIET AIR DEFENSE CAPABILITIES, 1954 - 1960 (Draft for Board consideration)

THE PROBLEM

To estimate the capabilities of Soviet air defense through the period 1954 - 1960.

SCOPE

This estimate should be a revision and updating of SIE-5, dated 3 December 1952. Contributors are requested to review this estimate and, where the answers to the questions below remain the same, merely so indicate. Where new estimates are made, and when feasible, use the base years 1954, 1957, and 1960.

DOCUMENT NO.
NO CHANGE IN CLASS. ☐
☐ DECLASSIFIED
CLASS. CHANGED TO: TS (S) C 1991
NEXT REVIEW DATE:
AUTH: HR 70-2
DATE: 18 JUNE 81 REVIEWER: 018557

QUESTIONS BEARING ON THE PROBLEM

I. SOVIET AIR DEFENSE STRATEGY AND TACTICS

A. What changes in Soviet air defense doctrines and tactics have occurred in the postwar period?

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B. What priority has the USSR given air defense since World War II as compared with other military forces?

II. THE ORGANIZATION AND COMPOSITION OF SOVIET AIR DEFENSE SYSTEM

A. What are the present channels of responsibility and authority for air defense in the Soviet Union?

B. What is the organization and composition of military forces devoted primarily to air defense? What other forces would be available for air defense?

C. What civilian organizations contribute to air defense? What are their composition and functions?

D. What is the relationship of Satellite and Chinese Communist air defense systems to that of the USSR? Are the systems independent or organizationally and functionally complementary?

III. SOVIET AIR DEFENSE EQUIPMENT

A. What are the principal Soviet aircraft types currently employed for air defense? What are their performance characteristics and capabilities compared with equivalent US types? What are their limitations in terms of the air defense problems of the USSR? What will be the characteristics of aircraft likely to be developed through the period of this estimate?

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B. What electronics equipment does the USSR now have and what is it likely to have during the period of this estimate? What are the capabilities of such equipment compared to US equipment and what is its estimated effectiveness in terms of the air defense problems of the USSR? Discuss above in terms of:

1. Early warning radar
2. Ground control intercept equipment
3. Air intercept equipment
4. Radio navigation equipment
5. Communications nets
6. CCA or equivalent
7. Anti-aircraft fire control and searchlight control radar
8. Electronic countermeasure equipment.

C. What are Soviet anti-aircraft capabilities, including guns, fuses, searchlights, and unguided rockets? How does performance compare with US types? How far will the equipment now available and likely to be available during the period of this estimate meet the requirements of Soviet air defense?

D. What guided missiles (air-to-air and surface-to-air) is the USSR likely to have during the period of this

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(Revised pages of Terms of Ref., NIE 11-9-54, dated 8 Sept 1954. Please insert.)

estimate? What are their performance characteristics? What will be the major deficiencies or problems in their employment?

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IV. SOVIET AIR DEFENSE FACILITIES AND AIR DEFENSE LOGISTICAL SYSTEM

A. What is the present and anticipated status of air facilities available to the USSR for defensive air operations?

B. How adequate will the Soviet air logistical system be for meeting the requirements of the Soviet air defense system, especially jet fuel requirements, during the period of this estimate?

V. SOVIET ECONOMIC CAPABILITIES FOR PRODUCTION AND SUPPORT OF AIR DEFENSE WEAPONS AND SYSTEMS

A. What is the current production of major equipment and items essential to the support of the Soviet air defense systems discussed in Sections III and IV? What is the capacity production and what is the estimated production by year, through the period of this estimate?

B. What is the estimated annual cost of production, maintenance and operation of equipment, weapons and weapon systems, and air facilities for air defense by year, through the period of this estimate?

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C. What are the economic limitations to production of equipment, weapons and weapons systems, air facilities, and essential logistical support items during this period?

VI. SOVIET CAPABILITIES FOR MAINTENANCE AND OPERATION OF AIR DEFENSE WEAPONS AND SYSTEMS

A. What is the estimated level of operational efficiency in the utilization of equipment, weapons and weapons systems, and air facilities discussed in Sections III and IV, e. g., level of training, maintenance skills, operational skills?

B. What is the estimated level of communications effectiveness for local filter center operations, and for coordinating regional defense operations?

VII. SUMMARIZE THE MAJOR STRENGTHS AND WEAKNESSES OF THE SOVIET AIR DEFENSE SYSTEM.

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VIII CAPABILITIES OF THE SOVIET AIR DEFENSE SYSTEM

A. For each of the areas listed in C. below, what is the number, location and type of equipment together with strength and unit designation of air defense forces?

B. What is likely to be the over-all raw capability of the air defense forces and systems in each of these areas during the period of this estimate? What are the major weaknesses or deficiencies of the air defense system in each area?

C. Areas to be considered under A. and B. above are:

1. European Satellites
2. Chukotski and Kamchatka base areas
3. Kola, Leningrad and Baltic base areas
4. Central and Western USSR
5. Black Sea area
6. Communist China and North Korea
7. Viet Minh areas.

IX ~~VIII~~ APPENDICES

The following appendices, for which agency contributions are solicited, are proposed:

USAF Appendix A: Map showing location of air defense headquarters, subordinate units, filter centers,

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communication central centers, GCI stations, and airfields.

USAF — Appendix B: Map showing location and coverage of early warning radar, ground observers, GCI equipment, and air bases of the Soviet Bloc.

" — Appendix C: Chart of air order of battle of air defense aircraft by year 1954 - 1960: PVO, Air Force of Soviet Army, Naval Air Force.

" — Appendix D: Graphic description of range and altitude of Soviet early warning and GCI radar capabilities.

USAF) O/NR) — Appendix E: Chart of estimated production of air defense aircraft and equipment by year, 1954 - 1960.

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